

<http://www.cas.org/legal/infopolicy.html>

```
=> s (electrochemical cell) or battery
    166965 ELECTROCHEMICAL
        16 ELECTROCHEMICALS
    166980 ELECTROCHEMICAL
        (ELECTROCHEMICAL OR ELECTROCHEMICALS)
    321556 ELECTROCHEM
        21 ELECTROCHEMS
    321563 ELECTROCHEM
        (ELECTROCHEM OR ELECTROCHEMS)
    349261 ELECTROCHEMICAL
        (ELECTROCHEMICAL OR ELECTROCHEM)
    2419216 CELL
    2087364 CELLS
    3164975 CELL
        (CELL OR CELLS)
        13016 ELECTROCHEMICAL CELL
            (ELECTROCHEMICAL(W)CELL)
        147421 BATTERY
        114715 BATTERIES
        160332 BATTERY
            (BATTERY OR BATTERIES)
L1    170768 (ELECTROCHEMICAL CELL) OR BATTERY

=> s l1 and (lithium (3a) air) or (li (3a) air)
    343773 LITHIUM
        372 LITHIUMS
    343901 LITHIUM
        (LITHIUM OR LITHIUMS)
    1060546 AIR
        455 AIRS
    1060734 AIR
        (AIR OR AIRS)
        599 LITHIUM (3A) AIR
    208015 LI
        1071 LIS
    208917 LI
        (LI OR LIS)
    1060546 AIR
        455 AIRS
    1060734 AIR
        (AIR OR AIRS)
        274 LI (3A) AIR
L2    381 LI AND (LITHIUM (3A) AIR) OR (LI (3A) AIR)

=> d his

(FILE 'HOME' ENTERED AT 15:46:35 ON 08 JUL 2008)

FILE 'REGISTRY' ENTERED AT 15:46:49 ON 08 JUL 2008

FILE 'CAPLUS' ENTERED AT 15:46:53 ON 08 JUL 2008
L1    170768 S (ELECTROCHEMICAL CELL) OR BATTERY
L2    381 S L1 AND (LITHIUM (3A) AIR) OR (LI (3A) AIR)

=> s l2 and intercalat?
    50984 INTERCALAT?
L3    13 L2 AND INTERCALAT?
```

=> d his

(FILE 'HOME' ENTERED AT 15:46:35 ON 08 JUL 2008)

FILE 'REGISTRY' ENTERED AT 15:46:49 ON 08 JUL 2008

FILE 'CAPLUS' ENTERED AT 15:46:53 ON 08 JUL 2008

L1 170768 S (ELECTROCHEMICAL CELL) OR BATTERY
L2 381 S L1 AND (LITHIUM (3A) AIR) OR (LI (3A) AIR)
L3 13 S L2 AND INTERCALAT?

=> d 1-13 ibib ti ti abs

L3 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN
ACCESSION NUMBER: 2008:342025 CAPLUS <<LOGINID:20080708>>
TITLE: Effect of catalyst on the performance of rechargeable
lithium/air batteries
AUTHOR(S): DeBart, A.; Bao, J.; Armstrong, G.; Bruce, P. G.
CORPORATE SOURCE: EaStCHEM, School of Chemistry, University of St
Andrews, North Haugh, St Andrews, Fife, KY16 9ST, UK
SOURCE: ECS Transactions (2007), 3(27, Lithium-Ion Batteries),
225-232
CODEN: ECSTF8
PUBLISHER: Electrochemical Society
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
TI Effect of catalyst on the performance of rechargeable lithium/
air batteries
TI Effect of catalyst on the performance of rechargeable lithium/
air batteries
AB Rechargeable lithium batteries are now a major technol., driven
by their superior energy d. compared with alternative rechargeable
batteries. There is much interest in increasing further the
energy d. This is limited by the pos. electrode, LiCoO₂, which can cycle
only around 0.5 Li per formula unit. Intensive research world-wide on new
intercalation cathodes will increase the amount of Li that may be
stored, but only by a factor of 2. Replacing the intercalation
cathode with an O₂ electrode could raise the capacity 5-10-fold. Here we
explore the influence of the catalyst could have on the performance of a
non-aqueous O₂ electrode on a Li/O₂ cell. Of the catalysts studied, the
highest capacity retentions were observed with Fe₃O₄, CuO and CoFe₂O₄ (6.67%
per cycle). Co₃O₄ gives the best compromise between initial capacity
(2000mAhg⁻¹) and capacity retention (6.5% per cycle), as well as the
lowest charging voltage 4V.
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN
ACCESSION NUMBER: 2007:882099 CAPLUS <<LOGINID:20080708>>
TITLE: Rechargeable lithium/air
battery
AUTHOR(S): DeBart, Aurelie; Armstrong, Graham; Bao, Jianli;
Paterson, Allan J.; Bruce, Peter G.
CORPORATE SOURCE: School of Chemistry, University of St Andrews, St
Andrews, KY169ST, UK
SOURCE: Abstracts of Papers, 234th ACS National Meeting,
Boston, MA, United States, August 19-23, 2007 (2007),
FUEL-227. American Chemical Society: Washington, D.
C.
CODEN: 69JNJR2
DOCUMENT TYPE: Conference; Meeting Abstract; (computer optical disk)

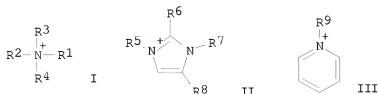
LANGUAGE: English
 TI Rechargeable lithium/air battery
 TI Rechargeable lithium/air battery
 AB Rechargeable lithium batteries already dominate consumer electronics and have a crucial role to play addressing global warming and powering medical devices. Their energy storage (d.) is limited by the quantity of Li that can be stored in the pos. intercalation electrode LiCoO₂. To take a leap forward in energy storage, a radically different approach is required e.g. replacing LiCoO₂ by reaction with O₂ from the air. Such an electrode can be repeatedly charged and discharged and the Li₂O₂ formed on discharge is electrochem. decomposed to Li + O₂ on charge. Here we explore the influence of the catalyst could have on the performance of a non-aqueous O₂ electrode on a Li/O₂ cell.

L3 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN
 ACCESSION NUMBER: 2007:834476 CAPLUS <<LOGINID:20080708>>
 TITLE: Rechargeable lithium/air battery
 AUTHOR(S): Debart, Aurelie; Armstrong, Graham; Bao, Jianli; Paterson, Allan J.; Bruce, Peter G.
 CORPORATE SOURCE: EaStCHEM, School of Chemistry, University of St Andrews, North Haugh, St Andrews, Fife, KY16 9ST, UK
 SOURCE: Preprints of Symposia - American Chemical Society, Division of Fuel Chemistry (2007), 52(2), 692
 CODEN: PSADFZ; ISSN: 1521-4648
 PUBLISHER: American Chemical Society, Division of Fuel Chemistry
 DOCUMENT TYPE: Journal; (computer optical disk)
 LANGUAGE: English
 TI Rechargeable lithium/air battery
 TI Rechargeable lithium/air battery
 AB Rechargeable lithium batteries already dominate consumer electronics and have a crucial role to play addressing global warming and powering medical devices. Their energy storage (d.) is limited by the quantity of Li that can be stored in the pos. intercalation electrode LiCoO₂. To take a leap forward in energy storage, a radically different approach is required e.g. replacing LiCoO₂ by reaction with O₂ from the air. Such an electrode can be repeatedly charged and discharged and the Li₂O₂ formed on discharge is electrochem. decomposed to Li + O₂ on charge. Here we explore the influence of the catalyst could have on the performance of a non-aqueous O₂ electrode on a Li/O₂ cell.
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN
 ACCESSION NUMBER: 2004:312161 CAPLUS <<LOGINID:20080708>>
 DOCUMENT NUMBER: 140:342143
 TITLE: Secondary nonaqueous electrolyte air battery
 INVENTOR(S): Kuboki, Takashi; Okuyama, Akio; Osaki, Takahisa; Takami, Norio
 PATENT ASSIGNEE(S): Toshiba Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2004119278	A	20040415	JP 2002-283527	20020927
JP 4015916	B2	20071128		

TI Secondary nonaqueous electrolyte air battery
TI Secondary nonaqueous electrolyte air battery
GI



AB The battery has a nonaq. electrolyte solution between a Li-intercalating anode and a cathode in a battery case having air inlet holes supplying O to the cathode; where the electrolyte solution comprises an ordinary temperature molten salt, containing Li⁺ and ≥1 cation selected from I (R1-4 = C<8 alkyl, C<8 Ph, or C<8 benzyl group) II (R5, R7= C<8 alkyl, C<8 Ph, or C<8 benzyl group; and R6, R8= H, C<8 alkyl, C<8 Ph, or C<8 benzyl group) , and III (R9 = C<8 alkyl, C<8 Ph, or C<8 benzyl group).

L3 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:65690 CAPLUS <<LOGINID:20080708>>

DOCUMENT NUMBER: 140:202347

TITLE: A better understanding of the irreversible lithium insertion mechanisms in disordered carbons

AUTHOR(S): Beguin, F.; Chevallier, F.; Vix, C.; Saadallah, S.; Rouzaud, J. N.; Frackowiak, E.

CORPORATE SOURCE: Centre de Recherche sur la Matiere Divisee, CNRS-University, Orleans, 45071, Fr.

SOURCE: Journal of Physics and Chemistry of Solids (2004), 65(2-3), 211-217

CODEN: JPSCAW; ISSN: 0022-3697

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

TI A better understanding of the irreversible lithium insertion mechanisms in disordered carbons

TI A better understanding of the irreversible lithium insertion mechanisms in disordered carbons

AB Disordered carbons have high Li storage capacities. However, compared to graphite, they generally show high hysteresis and irreversibility, and sometimes a poor cycleability, which strongly limit their practical application. To better understand the phenomena occurring during the 1st reduction (discharge) of nanostructured carbons and to improve electrochem. performance, the insertion reaction was studied. Irreversible capacity is related to the sp. surface area, but many deviations from this relationship are observed. A better linear relation is obtained by considering the active surface area. Deactivating the surface by a pyrolytic C deposit allows the irreversible capacity to be reduced. The electrochem. properties of this new C/C composite were studied by galvanostatic cycling.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:953986 CAPLUS <<LOGINID:20080708>>
 DOCUMENT NUMBER: 138:306709
 TITLE: CeO2 thin films obtained by sol-gel deposition and annealed in air or argon
 AUTHOR(S): Kozjek Skofic, Irena; Sturm, Saso; Ceh, Miran; Bukovec, Natasa
 CORPORATE SOURCE: Faculty of Chemistry and Chemical Technology, University of Ljubljana, Ljubljana, SI-1000, Slovenia
 SOURCE: Thin Solid Films (2002), 422(1-2), 170-175
 CODEN: THSFAP; ISSN: 0040-6090
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

TI CeO2 thin films obtained by sol-gel deposition and annealed in air or argon
 TI CeO2 thin films obtained by sol-gel deposition and annealed in air or argon
 AB Thin films of CeO2 were prepared on SnO2/F-coated glass plates by the sol-gel dip-coating process using CeCl3·7H2O as a precursor. The films were heat-treated in an air or argon atmospheric. The structural, electrochem. and optical properties of these films depend on the preparation conditions. Transmission electron microscopy (TEM) showed the films to be polycryst. with randomly oriented crystallized domains of up to 10 nm in size. The degree of crystallinity of films heat-treated in argon is higher than that of those heat-treated in air, and therefore their charge capacity values (15.9 mC cm⁻² after 100 cycles) and reversibility of the ion-storage process (0.99 after 100 cycles) are higher than for films heat-treated in air (10.5 mC cm⁻² and 0.86 after 100 cycles, resp.). Both films are optically passive under Li⁺ ion insertion and have high optical transmittance (>80%).

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN
 ACCESSION NUMBER: 2002:193273 CAPLUS <<LOGINID:20080708>>
 DOCUMENT NUMBER: 136:234670
 TITLE: Cathode active materials, their manufacture, and secondary organic electrolyte batteries using them
 INVENTOR(S): Oikawa, Takao; Iwatani, Keizo; Yamaguchi, Masashi
 PATENT ASSIGNEE(S): Chisso Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002075355	A	20020315	JP 2000-251956	20000823
PRIORITY APPLN. INFO.: JP 2000-251956 20000823				
TI Cathode active materials, their manufacture, and secondary organic electrolyte batteries using them				
TI Cathode active materials, their manufacture, and secondary organic electrolyte batteries using them				
AB The cathode active materials (Li1-wZnw)8a(Mn2-x-yMlyLix)16dO4 (M1 = Al, Co, and/or Ni; 0 < w ≤ 0.1; x = 0-0.1; 0 < y ≤ 0.1) for secondary batteries using Li-intercalatable carbonaceous materials for anodes and mixts. of organic solvents and Li salt electrolytes as electrolyte solns., are manufactured by mixing Al compds., Co				

comps., and/or Ni comps., Mn₂O₃ prepared by heating Mn oxides at 550-750°, Zn comps., and Li comps., pressurizing the mixts. with air at 0 partial pressure 0.04-1 MPa, heating them at 600-900° for 1-40 h, and gradually cooling them at a cooling rate of ≤10°/min to 500°. Secondary organic electrolyte batteries using the cathode active materials show long cycle life at high temperature

L3 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:465139 CAPLUS <<LOGINID:20080708>>

DOCUMENT NUMBER: 131:274097

TITLE: Effects of CO₂ in air on Li deintercalation from LiNi_{1-x}-yCo_xAl_yO₂

AUTHOR(S): Matsumoto, Kazutoshi; Kuzuo, Ryuichi; Takeya, Kaname; Yamanaka, Atsushi

CORPORATE SOURCE: Central Research Laboratories, Sumitomo Metal Mining, Ichikawa-shi, Chiba, Japan

SOURCE: Journal of Power Sources (1999), 81-82, 558-561

CODEN: JPSODZ; ISSN: 0378-7753

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

TI Effects of CO₂ in air on Li deintercalation from LiNi_{1-x}-yCo_xAl_yO₂

TI Effects of CO₂ in air on Li deintercalation from LiNi_{1-x}-yCo_xAl_yO₂

AB The reaction of CO₂ and practical high-performance cathode materials LiNi_{1-x}-yCo_xAl_yO₂ was examined with XRD at RT and high temperature, TGA, IR, and

chemical anal. Even at room temperature, Li deintercalation took place and formed

Li₂CO₃ on the mother surface. The conversion to Li₂CO₃ in air at 55% RH at 25° was in proportion to the square root of exposure time. It was 8% after being left for 500 h. Using high-temperature XRD at 25-800°, the Li₂CO₃ phase formation was confirmed from about 500°, and the conversion exceeded 70% under atmospheric CO₂ at 675°. The activation energy of the reaction of deintercalated Li and CO₂ was estimated by Ozawa's method. The activation energy obtained using Ozawa's method was 130 kJ/mol for CO₂ diffusing through the Li₂CO₃ layer which formed on the surface during the reaction.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:399403 CAPLUS <<LOGINID:20080708>>

DOCUMENT NUMBER: 131:90157

TITLE: Synthesis of Li_xNi_{0.85}Co_{0.15}O₂ by the PVA-precursor method and the effect of air flow during the pyrolysis

AUTHOR(S): Kweon, Ho-Jin; Kim, Geun Bae; Kim, Sue Joo; Song, Me Young; Park, Seon Hui; Kwon, Hye Young; Park, Dong Gon

CORPORATE SOURCE: Department of Chemistry, Sookmyung Women's University, Seoul, 140-742, S. Korea

SOURCE: Bulletin of the Korean Chemical Society (1999), 20(5), 508-516

CODEN: BKCSDE; ISSN: 0253-2964

PUBLISHER: Korean Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

TI Synthesis of Li_xNi_{0.85}Co_{0.15}O₂ by the PVA-precursor method and the effect of air flow during the pyrolysis

TI Synthesis of Li_xNi_{0.85}Co_{0.15}O₂ by the PVA-precursor method and the effect

of air flow during the pyrolysis

AB Polycryst. powder of $\text{Li}_x\text{Ni}_{10.85}\text{Co}_{0.1502}$ was synthesized by pyrolyzing a powder precursor obtained by the PVA-precursor method. Coin cells of lithium-ion rechargeable battery were assembled, whose cathodes were fabricated from the crystalline powders of $\text{Li}_x\text{Ni}_{10.85}\text{Co}_{0.1502}$ synthesized by the method. The effect of synthetic variation on the property of the cell was tested by carrying out 100 consecutive cycles of charge-discharge on the cells. The property of the cell was largely influenced by the pyrolysis conditions applied for the synthesis of the $\text{Li}_x\text{Ni}_{10.85}\text{Co}_{0.1502}$. Depending on whether the pyrolysis was carried out in standing air or in the flow of dry air, the discharge capacity and cycle-reversibility of the cell varied in large extent. When the powder precursor was pyrolyzed in standing air, a minor phase of lithium carbonate was remained in the $\text{Li}_x\text{Ni}_{10.85}\text{Co}_{0.1502}$. The carbon containing powder precursor had to be pyrolyzed in the flow of dry air to eliminate the minor phase. In the flow of dry air, the lithium carbonate in the precursor was eliminated over 500-700° without any prominent heat event. By controlling the flow of air over the precursor during its pyrolysis, particle size could also be altered. The effect of flowing dry air, during first step pyrolysis or during second step heat treatment, on the property of the cell was discussed.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1998:198116 CAPLUS <<LOGINID:20080708>>
 DOCUMENT NUMBER: 128:232838
 ORIGINAL REFERENCE NO.: 128:46049a, 46052a
 TITLE: Air-lithium secondary batteries with carbonaceous anodes
 INVENTOR(S): Takami, Norio; Osaki, Takahisa
 PATENT ASSIGNEE(S): Toshiba Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10083836	A	19980331	JP 1996-239156	19960910
JP 3699786	B2	20050928		
JP 2005166685	A	20050623	JP 2005-30487	20050207
PRIORITY APPLN. INFO.:			JP 1996-239156	A3 19960910
TI Air-lithium secondary batteries with carbonaceous anodes				
TI Air-lithium secondary batteries with carbonaceous anodes				
AB The title batteries use anodes containing Li-intercalating carbonaceous materials and solid electrolytes. The batteries have high capacity and long cycle life.				

L3 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1998:155031 CAPLUS <<LOGINID:20080708>>
 DOCUMENT NUMBER: 128:219477
 ORIGINAL REFERENCE NO.: 128:43441a, 43444a
 TITLE: Nonaqueous electrolyte secondary batteries with high capacity and long cycle life and their manufacture
 INVENTOR(S): Tanaka, Mitsutoshi; Ishizuka, Hiroshi; Matsufuji,

Akihiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan; Ube Industries, Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10064540	A	19980306	JP 1996-217531	19960819
JP 3663763	B2	20050622		

PRIORITY APPLN. INFO.: JP 1996-217531 19960819
 TI Nonaqueous electrolyte secondary batteries with high capacity and long cycle life and their manufacture
 TI Nonaqueous electrolyte secondary batteries with high capacity and long cycle life and their manufacture
 AB The batteries have cathodes containing Li intercalatable compds., anodes containing amorphous chalcogen compds. and/or amorphous oxides as main components and ≥ 3 kinds of Group IA-IVA elements, Li salt-containing nonaq. electrolytes treated by air-bubbling, and separators. The nonaq. electrolytes are air-bubbled before injected into battery cases.

L3 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1998:86584 CAPLUS <<LOGINID::20080708>>
 DOCUMENT NUMBER: 128:175259
 ORIGINAL REFERENCE NO.: 128:34401a, 34404a
 TITLE: Structural in-situ study of Li intercalation in Li1+xMn2-xO4 spinel-type oxides
 AUTHOR(S): Le Cras, F.; Anne, M.; Bloch, Didier; Strobel, P.
 CORPORATE SOURCE: Laboratoire de Cristallographie CNRS, BP 166, Grenoble Cedex 9, 38042, Fr.
 SOURCE: Solid State Ionics (1998), 106(1,2), 1-10
 CODEN: SSIOD3; ISSN: 0167-2738
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 TI Structural in-situ study of Li intercalation in Li1+xMn2-xO4 spinel-type oxides
 TI Structural in-situ study of Li intercalation in Li1+xMn2-xO4 spinel-type oxides
 AB Spinel oxides LiMn2O4 and Li1.23Mn1.77O4 were studied using an air-tight electrochem. Li cell mounted on an x-ray powder diffractometer. The combination of electrochem. and x-ray data unambiguously shows the appearance of a tetragonal phase as soon as Li intercalation in the host oxide begins. The Li intercalation reaction is two-phase for both oxide hosts, in spite of the high initial Mn oxidation state in Li1.23Mn1.77O4 (+3.82), which lies well above the expected Jahn-Teller distortion limit (+3.5). The tetragonal distortion is much stronger in lithiated Li2Mn2O4 than in Li1.23+xMn1.77O4 .
 REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1991:683569 CAPLUS <<LOGINID::20080708>>
 DOCUMENT NUMBER: 115:283569
 ORIGINAL REFERENCE NO.: 115:48133a, 48136a
 TITLE: Lithium metal-free rechargeable batteries based on

lithium manganese oxide ($\text{Li}_{1+x}\text{Mn}_2\text{O}_4$) cathodes ($0 \leq x \leq 1$) and carbon anodes
 AUTHOR(S): Tarascon, J. M.; Guyomard, D.
 CORPORATE SOURCE: Bellcore, Red Bank, NJ, 07701, USA
 SOURCE: Journal of the Electrochemical Society (1991),
 138(10), 2864-8
 CODEN: JESQAN; ISSN: 0013-4651

DOCUMENT TYPE: Journal
 LANGUAGE: English

TI Lithium metal-free rechargeable batteries based on lithium manganese oxide ($\text{Li}_{1+x}\text{Mn}_2\text{O}_4$) cathodes ($0 \leq x \leq 1$) and carbon anodes
 TI Lithium metal-free rechargeable batteries based on lithium manganese oxide ($\text{Li}_{1+x}\text{Mn}_2\text{O}_4$) cathodes ($0 \leq x \leq 1$) and carbon anodes
 AB The spinel LiMn_2O_4 can be used as the cathode in rechargeable rocking-chair batteries based on Li intercalation anodes (carbon, either graphite or petroleum coke). At room temperature, such cells show promising cycle life, an average open-circuit voltage of 3.7 V and a specific energy of 250 W-h/kg of electrode materials (cathode + anode). A novel synthesis $\text{Li}_2\text{Mn}_2\text{O}_4$, at $<100^\circ$ was developed, using LiI as a mild reducing agent. The cycling behavior of rocking-chair cells using the lithiated phase as the starting cathode is presented. $\text{Li}_2\text{Mn}_2\text{O}_4$ appears to be a promising practical air stable Li -bearing cathode for rocking-chair-type rechargeable cells.

=> log h

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
55.27	55.94

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-10.40	-10.40

CA SUBSCRIBER PRICE

SESSION WILL BE HELD FOR 120 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 15:47:43 ON 08 JUL 2008